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EXAMINER

VENT, JAMIE J

ART UNIT PAPER NUMBER

2613

DATE MAILED: 01/02/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/910,970

Applicant(s)

HANES, DAVID H.

Examiner

Jamie Vent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment

The following is the new rejection based on the applicants' amendment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9-13, 15-19, 22-29, 31-38, and 40 are rejected under 35U.S.C.102(b) as being anticipated by Dettmer et al (US 5,812,732).

[claim 1]

1. In regard to Claim 1, Dettmer et al discloses a method for identifying signal patterns and associated apparatus comprising:

- Analyzing a plurality of video frames, the plurality of video frames comprising recorded data content and unrecorded data content (Column 3 Lines 5 "features of video signals can be analyzed with image processing: distribution of brightness in one frame, color variance in one frame, measure of the difference of two successive frames used for logogram detection, use of VPS information, use of VPS break signal, and use of VPS code". As disclosed a plurality of video frames are analyzed above by the "measure of the difference of two successive frames..." and the data in the frames comprise recorded and unrecorded content by the comparison of color variance, brightness variance, audio level and

logogram similarity which allows for classification of the recorded and unrecorded content); and

- Identifying at least one frame of unrecorded data content as a border of the recorded data content (Column 4 Lines 20+ "detects the start and end of commercials in TV programs" thereby identifying the unrecorded data (commercial) and the recorded data (TV program)).

[claims 2 and 3]

2. In regard to Claims 2 and 3, Dettmer et al further discloses digitizing and compressing at least a subset of video frames (Figure 9A the routine waits until the first visible pixel point is present and then in step 906 each pixel point is fetched sequentially from the digitizing unit).

[claim 4]

3. In regard to Claim 4, Dettmer et al fails to recite "formatting" video but in view of the steps of recording, compression, and digitizing of video, the limitation of formatting of video is met by the recording format, compression format, and/or analog or digital video signal format as seen in Figure 9.

[claims 5, 10, 11, and 19]

4. In regard to Claims 5, 10, 11, and 19 Dettmer et al discloses the storing of recorded data content on a media storage system based on the identified border (Column 6 lines 39+ the system has a separate memory unit for storing the position information which is based on the information obtained from the commercial detection system).

[claims 6, 12, 22, 27, 35, and 40]

5. In regard to Claims 6, 12, 22, 27, 35, and 40 Dettmer et al discloses an input into the system through a video recorder, such as a VCR (Figure 2 line 204).

[claims 7, 13, 18 and 28]

6. In regard to Claims 7, 13, 18, and 28 Dettmer et al discloses a method for creating a histogram of at least one of the plurality of video frames and determining from the histogram at least one frame of unrecorded data (Column 12 Lines 22+ "methods for the calculation of brightness distribution are well known under the synonym 'histogram'. If the brightness of most of the pixel are concentrated around a certain brightness value then it can be concluded that the image only shows a small amount of optically different information. In this way image date-outs can be recognized, It can be observed, that the image information is faded out before commercial interrupts (unrecorded data) and inserted again after commercial interrupts..").

[claim 9]

7. In regard to Claim 9, Dettmer et al discloses a system for detecting the border of a video stream comprising:

- Video data source (Figure 1 element 105)
- Border detection module coupled to the video data source and operable to receive a plurality of video frames, the plurality of video frames comprising recorded data content and unrecorded data content (Figure 1 Element 101 receives frames of data consisting recorded data content (television programs) and unrecorded data content (black and blue images which borders commercials));

- Analyze the plurality of video frames (Column 3 Lines 5 “features of video signals can be analyzed with image processing: distribution of brightness in one frame, color variance in one frame, measure of the difference of two successive frames used for logogram detection, use of VPS information, use of VPS break signal, and use of VPS code”. As disclosed a plurality of video frames are analyzed above by the “measure of the difference of two successive frames...” and the data in the frames comprise recorded and unrecorded content by the comparison of color variance, brightness variance, audio level and logogram similarity which allows for classification of the recorded and unrecorded content
- identifying at least one frame of unrecorded data content as a border at least one recorded data content (Column 4 Lines 20+ “detects the start and end of commercials in TV programs” thereby identifying the unrecorded data (commercial) and the recorded data (TV program)).

[claim 15]

8. In regards to Claim 15, Dettmer et al discloses an apparatus and application for identifying signal patterns comprising:

- border detection module (Figure 1 element 101);
- logic residing on the module, the logic operable to receive a plurality of video frames, the plurality of video frames comprising recorded and unrecorded data content (Column 3 Lines 59+ the detection module consists of three microcontrollers, data bus and memory);

- analyze the plurality of video frames (Column 3 Lines 5 “features of video signals can be analyzed with image processing: distribution of brightness in one frame, color variance in one frame, measure of the difference of two successive frames used for logogram detection, use of VPS information, use of VPS break signal, and use of VPS code”. As disclosed a plurality of video frames are analyzed above by the “measure of the difference of two successive frames...” and the data in the frames comprise recorded and unrecorded content by the comparison of color variance, brightness variance, audio level and logogram similarity which allows for classification of the recorded and unrecorded content; and
- identify at least one frame of the unrecorded data content as a bored of the recorded data content (Column 4 Lines 20+ “detects the start and end of commercials in TV programs” thereby identifying the unrecorded data (commercial) and the recorded data (TV program)).

[claim 16 and 17]

9. In regard to Claims 16 and 17, Dettmer et al discloses the logic residing on the module comprises at least one software application (Column 3 Lines 63+ “the second controller executes image processing software and the third controller processes the fuzzy rules”.) and firmware (Column 3 Lines 63+ discloses an apparatus that comprises a video unit and an image memory unit which with the aid of software detects commercials. As defined by The American Heritage College Dictionary, firmware is

"software that is stored in the memory." The application listed above that is stored in the image memory would by definition be considered firmware.)

[claim 23]

10. In regard to Claim 23, Dettmer et al discloses a system for detecting a border of video data comprising:

- border detection module (Figure 1 element 101); and
- logic residing on the module, the logic adaptes to compare at least two video frames of the video data, the logic adapted to identify at least one of the two video frames as a border between unrecorded data content of the video data and recorded data content of the video data if pixel values of the at least one of the two video frames correspond substantially to a particular color (Column 3 Lines 59+ the detection module consists of three microcontrollers, data bus and memory shows the logic that resides on the CDS while the logic executes an image processing software that identifies the frame between the content of unrecorded and recorded data. The pixel values correspond to a particular color as seen in Figure 9 in the image processing circuit);

[claim 24, 31, and 37]

11. In regard to Claim 24, Dettmer et al discloses the logic is adapted to initiate recording of the recorded data content onto a media storage system based on the border video frame (Figure 1 shows the output from the CDS with information regarding

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the border of the video frame and sending information to the recording system, element 107).

[claim 25 and 32]

12. In regard to Claim 25, Dettmer et al discloses the logic is adapted to format the recorded data content corresponding to a type of the media storage system (Figure 9b shows the recorded data corresponding to the media storage system that information is being recorded).

[claim 26 and 33]

13. In regard to Claim 26, Dettmer et al discloses the logic is adapted to compare the at least two video frames in real-time (Column 3 Lines 34+ "classification is performed in real time").

[claim 29]

14. In regard to Claim 29, Dettmer et al discloses a system for detecting a border of video data comprising:

- border detection module (Figure 1 element 101); and
- logic residing on the module, the logic adapted to compare at least two video frames of the video data, the logic adapted to identify at least one of the two video frames as a border between unrecorded data content of the video data and recorded data content of the video data if an amount of motion in one of the at least two video frames exceeds a predetermined threshold relative to another one of the at least two video frames (Column 3 Lines 59+ the detection module consists of three microcontrollers, data

bus and memory shows the logic that resides on the CDS while the logic executes an image processing software that identifies the frame between the content of unrecorded and recorded data. The amount of motion in one of at least two video frames is determined by the "measure of the difference of two successive frames used for logogram detection (Column 3 Lines 10+).

[claim 34]

15. In regard to Claim 34, Dettmer et al fails to recite "compressed video data" but in view of the steps of recording, compression, and digitizing of video, the limitation of compressed video is met by the recording format and/or analog or digital video signal format as seen in Figure 9.

[claim 36]

16. In regard to Claim 36, Dettmer et al discloses a system for detecting a border of video data comprising:

- receiving a plurality of video frames (Figure 1 shows an input of a tv signal which consists of a plurality of video frames); and
- identifying at least one of the plurality of video frames as border between recorded data content of the video data and unrecorded data content of the video data (Column 4 Lines 20+ "detects the start and end of commercials in TV programs" thereby identifying the unrecorded data (commercial) and the recorded data (TV program)).

[claim 38]

17. In regard to Claim 36, Dettmer et al disclose a means for determining whether pixel values for the border correspond substantially to a particular color (Column 13 Lines 18+ the image read is located in image memory where the differences between the momentary values of brightness and color correspond to the previous value. A counter is increased by 1 if there is a difference in color this allowing the determination of pixel value with a particular color).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dettmer et al (US 5,812,732) in view of Nafeh (US 5,343,251).

[claims 8, 14, 20, 30 and 39]

18. In regard to Claims 8, 14, 20, 30, and 39 Dettmer et al discloses a commercial detection system but lacks the a method for analyzing motion vectors created from at least one of the plurality of video frames and determining from the motion vectors at least one frame of unrecorded data content.

Nafeh discloses a method for analyzing vectors (Column 4, Lines 45-48 and Column 5, Lines 6-7, identify vectors and change in vectors through detectors and

amplifiers that show changes and classify by indicator number in the range of +1 and -1) and the determining from vectors at least one frame of unrecorded data content (Column 5, Line 35-38 and Column 6 Lines 25-26, classification of video stream and vectors, by the numeric value of indicator numbers, into desired and undesired segments through the use of the range of +1 and -1. The desired segments would be recordable data (television programs) and the undesired segments would be unrecorded data (commercials)).

Therefore, it would be obvious to one skilled in the art at the time of the invention to take the commercial detection system, as disclosed by Dettmer et al, and incorporate a method for analyzing the vectors of each frame, as disclosed by Nafeh. The analyzing of motion vectors provides a further classification process of determining if data should be recordable or unrecordable data.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.163(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed and extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event; however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Fax Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

Or faxed to:

703.208.6306 (for formal communication intended for entry)
703.308.5359 (for informal or draft communications, please label "PROPOSED"
or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie J. Vent whose telephone number is (703) 305-0378.

If any attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Christopher Kelley, can be reached at (703) 305-4856.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

JV
Jamie Vent
12/20/2003

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